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May 4, 2004

Mary L. Cottrell, Secretary  
Department of Telecommunications and Energy  
One South Station, 2<sup>nd</sup> Flr  
Boston, MA 02110

RE: NSTAR Electric Company, D.T.E. 01-65

Dear Ms. Cottrell:

On March 22, 2002, the Department of Telecommunications and Energy (the "Department") issued an order in NSTAR Electric, D.T.E. 01-65, directing NSTAR Electric<sup>1</sup> to submit a filing on January 1 of each year for a two-year period providing information regarding the Company's distribution planning efforts.<sup>2</sup> With this letter, the Company presents the 2004 Transmission & Distribution Operating Study in accordance with the Department's order in D.T.E. 01-65 and subsequent discussions with the Electric Power Division.

Please note that NSTAR Electric has eight operating districts from which all operation, maintenance and construction activities are performed. These operating districts are located in Boston (Massachusetts Avenue), Walpole, Somerville, Framingham, Waltham, New Bedford Plymouth and Cape Cod. Accordingly, the materials provided herewith assess the system's capabilities in relation to the transmission and distribution systems within each of these operating districts. Substation evaluations are organized by the operating district in which the respective substations are located. Also included is an evaluation of the NSTAR North and NSTAR South 345 kV and 115 kV transmission systems.

NSTAR Electric appreciates the opportunity to provide the Department with this information. Should you require additional information, please do not hesitate to contact me. Thank you for your time and attention to this matter.

Sincerely,

A handwritten signature in black ink that reads "Mark L. Reed (cmx)". The signature is written in a cursive, flowing style.

Mark L. Reed  
Director Public Affairs

cc: Ronald LeComte, Director, Electric Power Division  
Shashi Parekh, Electric Power Division

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<sup>1</sup> The NSTAR Electric system is composed of Boston Edison Company d/b/a NSTAR Electric, Commonwealth Electric Company d/b/a NSTAR Electric and Cambridge Electric Light Company d/b/a NSTAR Electric.

<sup>2</sup> The Company filed the first annual report on January 8, 2003. The Company's filing for 2004 was delayed and filed at the Department on this date pursuant to a request made to the Department by the Company on March 12, 2004.



# Transmission & Distribution Operating Study Report

Prepared by  
Engineering System Inc.

April 22, 2004

# *Executive Summary*

The overall reliability of NSTAR's transmission and distribution system relies, in part, upon the information concerning the existing and future forecasted system conditions, and the ability to serve customer load during both normal and contingency outage situations while operating under those conditions. The reliability of the "NSTAR Electric" (i.e., Boston Edison, Cambridge Electric and Commonwealth Electric Companies d/b/a NSTAR Electric) T&D system for forecasted 2004 Summer conditions is evaluated as a part of ensuring the continued reliability of service to our customers and presented in this report. The assessment was accomplished by performing power flow analysis and simulations of reasonably foreseeable single-contingency outage conditions for the NSTAR's Electric service territory. NSTAR Electric has eight operating districts from which all operations, maintenance and construction activities are performed. These operating districts include operations centers located in Boston at Massachusetts Avenue, Walpole, Framingham, Waltham, Somerville, Cape Cod, New Bedford, and Plymouth. This report provides a review of the system's performance for the T&D systems within each of these operating districts. The evaluations of each substation is organized by the operating district it is located in which is followed by an evaluation of the NSTAR North and NSTAR South 345 and 115 kV transmissions systems. The study considers both the normal and contingency outage state of the system of critical supply system elements within the T&D system. For each contingency event assessed, limiting elements have been identified, and optimum operating plans have been developed for restoring the affected load from an alternate backup source.

In general the analysis presented within this report has identified that the NSTAR T&D system can adequately and reliably serve customer loads for the projected 2004 Summer peak loading conditions.

NSTAR Electric  
Transmission & Distribution Operating Study  
2004

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# Introduction

The *2004 T&D Operating Study* documents the results of contingency analysis of transmission and distribution supply facility outages within NSTAR's Massachusetts Avenue, Walpole, Framingham, Waltham, Somerville, Cape Cod, New Bedford, and Plymouth Operating Districts, including bulk substation transformers and 24kV and 13.8kV distribution supply system (DSS) feeders. The purpose of this study was three-fold:

1. To determine and optimize procedures for contingency backup of bulk substations and DSS lines.
2. To pinpoint potential problem areas, where transformer and line rating violations and voltage problems might occur during either normal operating conditions or under contingency outage conditions.
3. To identify "limiting element" facilities and equipment that constrain the ability to transfer station and circuit loads under contingency outage conditions.

NSTAR, is currently creating very detailed system models of its distribution supply facilities using a distribution analysis software package called CYMDIST (a product of Cyme International Inc, Burlington, MA). CymDist is a system of programs and structured data files designed to handle the basic functions of electric distribution performance simulation work, namely: power flow analysis; short circuit analysis; voltage drop; load balancing; motor start analysis; equivalent construction; and the database management necessary to maintain the required models. The models are created by extracting distribution circuit information from NSTAR's Graphical Information System (GIS) known as "Cad-Image". The extent of the modeled system includes all 24kV, 13.8kV distribution supply system (DSS) lines and selected 13.8kV / 4.16kV distribution feeders that serve as ties between 13.8kV bulk supply stations. Models of the distribution system have been established for some but not all of facilities. The effort to create such models is a multiyear process that will ultimately lead to modeling of all major distribution circuits. This capability is not yet fully available and is currently under development. NSTAR does maintain detailed system models of its bulk supply facilities using power flow analysis software called PSS/E (Power System Simulator for Engineering). PSS/E, developed by Power Technologies, Incorporated (PTI), is a system of programs and structured data files designed to handle the basic functions of power system performance simulation work, namely: data handling, updating, and manipulation; power flow; fault analysis; dynamic simulation; and equivalent construction. The extent of the modeled system in this software includes all 345kV and 115kV transmission facilities, all bulk distribution substations, and the "backbone" of 23kV and 13.2kV DSS tie lines that inter-tie bulk distribution substations.

The use of these models, in conjunction with NSTAR's sub-regional substation load forecast, allows System Planning to predict bulk supply system performance for future loading conditions. The analysis conducted herein was for forecasted 2004 NSTAR/North Extreme Weather Summer peak load levels. NSTAR has previously worked with ABB, Inc. (formerly ASEA-Brown Boveri) of Raleigh, NC, to conduct a sub-regional load forecast for its Boston Edison service territory, using spatial load forecasting methodologies. This forecast utilized a "bottom up" approach to forecast load growth on a per-substation basis using the spatial characteristics of the company's service territory, such as: existing and proposed land use characteristics and zoning; econometrics; proximity of infrastructure such as highways and railroads; and proximity of water resources. Extreme-weather corrections were then derived based upon linear regressions on past substation growth and historical

weather data, to produce a “Summer extreme weather” substation forecast based upon “one-in-ten year” statistical expectations. The development of the forecast is described in further detail under the “*Substation Load Forecast*” Section.

NSTAR has also introduced a new prioritization procedure to ensure that the most critical projects are being funded and to allow for deferral of those projects that marginally meet the system planning criteria in terms of potential impacts to the customer. The detailed calculations associated with this prioritization process are included in the document found in Appendix B. The general determination is based on assessing the potential energy that would be at risk if one or more events occurred on the system. The prioritization process ranks the project that would serve to reduce or eliminate these risks based on the amount of energy at risk. Those projects that are above a threshold amount of risk are scheduled for implementation and those that do not meet this threshold are deferred. The value of the threshold is currently under review as the process was just introduced at the end of 2003.

## Methodology and Criteria

The *2004 T&D Operating Study* was conducted in accordance with system reliability criteria described in a document issued May 1<sup>st</sup>, 2001, entitled “Reliability Criteria for NSTAR Electric in the areas of Substation and Distribution.” The entire text of this document appears in Appendix A.

The criteria employed by NSTAR are consistent with industry standard practices and they comply with the reliability standards developed by NPCC and NEPOOL. They can be summarized as follows:

1. For all elements in-service (i.e., no facility outages, or an N-0 condition), no customer load will be un-served, system voltages are to remain within +/- 5% of nominal (the ANSI “A” range), and no Elements will exceed their applicable Normal ratings.
2. For a contingency outage condition (i.e., loss of an element either immediately post-contingency or post-contingency and post-remedial switching, an N-1 condition), voltages are to remain within +/- 10% of nominal (the ANSI “B” range), and no Elements will exceed their “Emergency Capacity Reservation Rating.”\* Where low probability events may result in limited duration local area outages loss of small portions of the system may be tolerated provided the reliability of the overall distribution system is not jeopardized. (Please refer to the document included in Appendix A for a more detailed description of NSTAR’s reliability criteria)

\* For the purposes of this study, equipment LTE (long-term emergency, or 12 hour) ratings were used.

The reliability criteria were then applied to the contingency assessments using the power flow models of NSTAR’s bulk supply system, as previously described. Substation transformer and DSS line loadings were maintained at or below applicable LTE ratings, post-contingency and post-remedial switching. In situations where supply elements’ LTE limits were exceeded, the circumstances were identified and remedial actions were suggested. The ANSI C84 Standard “A” range voltage bandwidth of +/-5% (i.e., 0.95 per unit minimum to 1.05 per unit maximum) was

applied to evaluate the adequacy of post-contingency system voltages. Due regard was given to voltage drops along un-modeled portions of the distribution system in this analysis, including distribution laterals, service transformers, secondaries and services. A potential for low voltages to occur was assumed in these un-modeled areas if the DSS system primary voltages were 0.95 per unit or lower, and these areas were identified for potential remediation.

# Equipment Ratings and Limits

## **Bulk Transformers**

NSTAR Bulk 115 kV to 24 kV, 115 kV to 13.8 kV and 115 kV to 13.2 kV transformers are all individually assessed to determine the appropriate loading levels that each unit can support under both normal and contingency conditions. The assessment is based on an analysis of the thermal and physical constraints of each particular unit along with the equipment associated with its connection to the system (i.e. circuit breakers, secondary cable termination, etc.) The results of these analyses are presented in the tables below for each bulk substation in the NSTAR system.

## **345kV and 115kV Transmission Lines**

The calculated values of transmission line ratings encompassing all equipment between the two end terminals were used. The final line rating of each line utilizes the overload capability of each component (such as disconnect switches, breakers, C.T's, wave traps, etc.) as per applicable ANSI standard. For detailed rating information for particular lines or autotransformers, please refer to ISO-NE's NX-9 database, available on the NSTAR intranet website.

	Station Name	Total Station Transformer Capacity (MVA)	TOTAL Xfer 2004	2004 Est. LCC	Area(s) Station Primarily Serves
2	Hawkins Street	150	0	93	Downtown Boston
4	L Street	84	0	84	South Boston
12	Chatham Street	250	0	133	Downtown Boston
53	High Street	250	0	139	Downtown Boston
65	Medway	80	15	55	Holliston, Medway, Bellingham,
71	Carver Street	150	0	87	Downtown Boston
106	Andrew Square	178	0	130	Roxbury, S. Boston
110	Baker Street	150	13	102	Dedham
126	Hopkinton	80	15	55	Hopkinton
146	Walpole	100	21	97	Walpole, Sharon
148	Needham	113	28	96	Needham, Dover
211	Woburn	160	15	140	Winchester, Woburn, Arlington
240	Framingham	64	18	70	SE Framingham, Natick
250	Mystic	245	5	203	Somerville, Charlestown
274	Sherborn	80	23	64	Sherborn
282	Waltham	193	22	139	Waltham
292	Newton	200	26	170	Newton
320	Lexington	120	25	79	Lexington, Lincoln
329	Brighton	340	17	217	Brighton, Brookline
342	Sudbury	48	22	51	Sudbury
375	North Woburn	163	9	109	N. Woburn, Stoneham
385	D K Street	256	0	225	South Boston
391	Burlington	160	22	122	Burlington
402	Somerville	100	0	84	Somerville
416	Maynard	100	20	80	Maynard, Acton
433	Speen Street	180	33	133	NE Framingham
450	Trapelo Road	125	21	90	Waltham
455	West Framingham	80	17	65	W. Framingham
456	Dover	24	23	23	Dover, Westwood
467	Watertown	250	0	144	Watertown
470	Canton	120	17	105	Canton
483	Dewar St.	265	2	135	Dorchester
488	Chelsea	104	4	86	Chelsea, E. Boston
492	Scotia Street	250	0	151	Downtown Boston
496	Hyde Park	280	13	164	Hyde Park, Milton
514	Kingston Street	280	0	151	Downtown Boston
533	N. Lexington	250	8	159	N. Lexington, Bedford, Carlisle

	Station Name	Total Station Transformer Capacity (MVA)	TOTAL Xfer 2004	2004 Est. LCC	Area(s) Station Primarily Serves
611	Pine Street	202	46	207	New Bedford
612	Acushnet	140	31	118	New Bedford
624	Wing Lane	35	18	18	Acushnet
636	Indust Park	112	22	80	New Bedford
646	Crystal Springs	22	21	21	Mattapoisett
651	Cross Road	44	11	31	Dartmouth
654	Arsene	35	16	16	Fairhaven
657	Fisher Rd	34	5	20	Dartmouth
661	Bell Rock	30	4	4	Assonet (Freetown)
713	Tremont	24	4	16	Wareham
714	Wareham	50	28	28	Wareham
715	Valley	47	15	55	Plymouth
721	Manomet	20	22	22	Plymouth
728	Marshfield	20	17	17	Marshfield
735	Kingston	40	13	42	Kingston
737	West Pond	112	20	80	Plymouth
738	Duxbury	112	24	91	Duxbury
745	Rochester	17	5	13	Rochester
828	Alewife	168	0	128	Cambridge, N. Cambridge
831	Putnam	210	0	162	Cambridge
915	Otis	26	30	30	Bourne
919	Sandwich	56	43	43	Sandwich
920	Oak Street	50	41	41	Barnstable, Mashpee
924	Falmouth	112	28	94	Martha's Vineyard
936	Hatchville	56	34	34	Falmouth
946	Mashpee	33	27	27	Mashpee
961	Hyannis	140	45	109	Barnstable
963	Harwich	112	39	105	Harwich
975	Orleans	89	34	77	Orleans
976	Wellfleet	46	24	24	Wellfleet

# Substation Load Forecast

## **System Peak Demand Load Forecasts**

The NSTAR retail energy sales forecasts for 2004-2006 were developed using company specific regression analyses. An average growth rate was used to extend the forecasts from 2007-2021. Separate growth rates were developed for each operating company (Boston Edison, Commonwealth Electric and Cambridge Electric). A loss factor, specific to each company, was then applied to the appropriate forecast, which in turn produced specific pre-DSM output forecasts (energy sales plus losses) for each operating company.

Wholesale energy sales were developed using regression analysis. The total wholesale energy sales were then added to each specific operating company's pre-DSM output forecasts (energy sales plus losses). DSM impacts, specific to each operating company, were then subtracted from the pre-DSM output forecasts to produce post-DSM output forecasts (energy sales plus losses). The pre-DSM peak forecasts utilize the post-DSM output forecasts along with company specific load factors. Each load factor was developed using a 5-year average. Load factors, for all operating companies, were developed for both summer and winter. Extreme (high & low) load factors were developed using plus/minus one standard deviation of the base load factor.

## **Energy Efficiency Programs Impact on Peak Demand Load Forecast**

After each operating company's pre-DSM peak forecast has been developed using the load factor methodology, the effect of equipment efficiency programs (DSM programs), specific to each operating company, is taken into account to produce final post-DSM peak forecasts.

## **Peak Load Shaving Programs Impact on Peak Demand Load Forecast**

Load response programs are not included in peak load demand forecasts. Historically, load response programs have been voluntary regardless of applicable financial incentive and/or penalties. The amount of actual curtailed load has been diminutive relative to service territory system peak load. However, load response programs are expected to become more robust in the future in terms of both customer participation and consistency. As these programs mature, NSTAR will review the prudence of including load response programs in peak load demand forecasts.

## **Substation Load Forecasts**

NSTAR has worked with ABB to construct a sub-regional load forecast for each of the substations in the Boston Edison, Cambridge Electric service territories. A spatial model was created for the service territory. The service territory was segmented into small areas of discernable load development parcels. Within each of these areas the land use and zoning data was digitized into the spatial load model. Considering the zoning information, the influence of area infrastructure such as highways and roads as well as significant development or redevelopment projects the ABB spatial forecast application determined the land use within each substation supply region and corresponding forecasted peak demand. The spatial forecast application allocates the growth throughout the study area so that the cumulative total of the stations' forecast within Cambridge Electric and Boston Edison Company is consistent with "extreme weather" peak demand for each of these operating companies.

NSTAR and ABB have developed substation load forecasts for Commonwealth Electric as well and NSTAR is currently reviewing the final implementation of the updated forecast data and results for

implementation in its next planning cycle.

### **Step Load Additions**

Adjustments to the load forecast are also included to recognize the addition of major new loads to the system. New load additions expected to come on to the system with an individual peak demand of 1 MW or greater are explicitly included in the forecast. These load additions are explicitly included in the substation and distribution system load forecast for the particular area that the load addition is expected to occur in.

### **Extreme Weather**

NSTAR and ABB performed a study to refine the development of 'extreme weather' load forecasts for the NSTAR service territory. The study defined both an extreme weather planning criteria based on historical weather and load regression models for the substations. The study recommended a 'one-in-ten year' weather criteria for the "extreme weather adjustment" of NSTAR substation loads. The NSTAR extreme system territorial peak load forecast is based on the 'one-in-ten year' weather criteria. The load regression models adjust the substation load forecasts to ensure these projections are consistent with the station's predicted performance for the extreme weather conditions.

	Station Name	2003 Peak	2004 Forecast	2005 Forecast	2006 Forecast	2007 Forecast	2008 Forecast	2009 Forecast	2010 Forecast	2011 Forecast	2012 Forecast	2013 Forecast
2	Hawkins Street	80.0	92.0	93.0	94.0	96.0	95.0	96.0	98.0	99.0	101.0	102.0
4	L Street	114.0	9.0	9.0	10.0	10.0	10.0	11.0	11.0	11.0	11.0	11.0
12	Chatham Street	94.0	112.0	113.0	114.0	118.0	123.0	125.0	127.0	128.0	130.0	132.0
53	High Street	85.0	108.0	109.0	110.0	110.0	111.0	113.0	114.0	116.0	117.0	119.0
65	Medway	49.0	52.0	53.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0	60.0
71	Carver Street	73.0	83.0	84.0	85.0	86.0	88.0	89.0	90.0	92.0	93.0	94.0
106	Andrew Square	147.0	134.0	135.0	136.0	139.0	141.0	144.0	147.0	149.0	152.0	155.0
110	Baker Street	82.0	83.0	83.0	84.0	85.0	87.0	88.0	90.0	91.0	93.0	94.0
126	Hopkinton	44.0	46.0	52.0	56.0	58.0	61.0	62.0	62.0	63.0	64.0	65.0
146	Walpole	81.0	92.0	92.0	93.0	94.0	96.0	97.0	99.0	101.0	102.0	104.0
148	Needham	74.0	83.0	84.0	85.0	86.0	88.0	89.0	91.0	92.0	94.0	95.0
211	Woburn	129.0	141.0	142.0	143.0	145.0	147.0	149.0	152.0	154.0	156.0	159.0
240	Frammingham*	74.0	81.0	82.0	84.0	85.0	86.0	87.0	89.0	90.0	92.0	93.0
250	Mystic	181.0	185.0	186.0	187.0	190.0	193.0	196.0	199.0	202.0	205.0	208.0
274	Sherborn	50.0	52.0	53.0	53.0	54.0	55.0	56.0	57.0	57.0	58.0	59.0
282	Waltham	12.0	139.0	140.0	141.0	143.0	145.0	147.0	150.0	152.0	155.0	157.0
292	Newton	169.0	168.0	170.0	171.0	174.0	176.0	179.0	182.0	185.0	188.0	191.0
320	Lexington	59.0	72.0	73.0	73.0	75.0	76.0	77.0	79.0	80.0	82.0	83.0
329	Brighton	204.0	218.0	232.0	248.0	258.0	265.0	268.0	272.0	275.0	278.0	282.0
342	Sudbury	41.0	40.0	41.0	42.0	42.0	43.0	43.0	44.0	45.0	45.0	46.0
375	North Woburn	87.0	98.0	101.0	103.0	104.0	106.0	107.0	109.0	110.0	112.0	114.0
385D	K Street	N/A	180.0	194.0	204.0	208.0	212.0	215.0	218.0	221.0	224.0	227.0
391	Burlington	102.0	118.0	118.0	120.0	122.0	124.0	126.0	128.0	130.0	132.0	134.0
402	Somerville	88.0	78.0	79.0	79.0	81.0	82.0	83.0	85.0	86.0	87.0	89.0
416	Maynard	76.0	82.0	81.0	82.0	83.0	85.0	86.0	88.0	89.0	90.0	92.0
433	Speen Street	114.0	123.0	124.0	124.0	127.0	128.0	130.0	132.0	134.0	136.0	138.0
450	Trapelo Road	79.0	84.0	85.0	85.0	87.0	88.0	90.0	91.0	92.0	94.0	95.0
455	West Frammingham	51.0	60.0	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0
456	Dover	21.0	30.0	30.0	30.0	31.0	31.0	32.0	32.0	33.0	33.0	34.0
467	Watertown	115.0	138.0	138.0	139.0	141.0	143.0	145.0	147.0	149.0	152.0	154.0
470	Canton	88.0	95.0	95.0	96.0	97.0	99.0	100.0	102.0	103.0	105.0	106.0
483	Dewar St.	125.0	138.0	140.0	141.0	143.0	145.0	147.0	149.0	152.0	154.0	156.0
488	Chelsea	80.0	94.0	96.0	99.0	102.0	104.0	105.0	107.0	108.0	110.0	111.0
492	Scotia Street	131.0	149.0	152.0	153.0	156.0	159.0	161.0	164.0	166.0	169.0	171.0
496	Hyde Park	159.0	167.0	172.0	176.0	179.0	181.0	184.0	186.0	189.0	192.0	195.0
514	Kingston Street	122.0	139.0	140.0	142.0	145.0	147.0	150.0	153.0	155.0	158.0	161.0
533	N. Lexington	93.0	93.0	93.0	94.0	95.0	97.0	98.0	100.0	101.0	103.0	105.0
800	Kendall	100.0	146.0	157.0	164.0	170.0	175.0	179.0	183.0	185.0	187.0	189.0
819	Prospect	55.0	77.0	77.0	77.0	79.0	80.0	81.0	82.0	84.0	85.0	86.0

	Station Name (# of Xfms)	2003 Peak	2004 Forecast	2005 Forecast	2006 Forecast	2007 Forecast	2008 Forecast	2009 Forecast	2010 Forecast	2011 Forecast	2012 Forecast	2013 Forecast
611	Pine Street	74.6	93.3	94.2	95.2	96.4	97.7	99.2	100.8	102.5	104.1	105.7
612	Acushnet	31.5	44.1	44.8	45.2	45.7	46.3	46.9	47.8	48.5	49.4	50.1
624	Wing Lane	12.6	15.0	15.2	15.3	15.4	15.6	15.8	16.0	16.3	16.6	16.8
636	Indust Park	43.5	40.3	40.8	41.4	42.0	42.6	43.3	43.9	44.6	45.4	46.1
646	Crystal Springs	12.5	13.3	13.4	13.5	13.6	13.6	13.7	13.8	14.0	14.1	14.2
651	Cross Road	17.2	30.9	31.4	32.0	32.7	33.5	34.2	35.0	35.5	36.2	37.0
654	Arsene	13.1	16.1	16.3	16.4	16.5	16.7	16.9	17.1	17.4	17.6	17.8
657	Fisher Rd	16.8	14.9	15.1	15.1	15.2	15.3	15.4	15.5	15.7	15.8	15.9
661	Bell Rock	4.6	11.8	11.8	11.8	11.8	11.9	11.8	11.9	12.0	12.0	12.0
713	Tremont	11.6	11.7	12.1	12.5	12.9	13.3	13.6	13.8	14.0	14.2	14.2
714	Wareham	24.8	26.7	27.9	28.7	29.5	30.3	31.4	32.3	32.8	33.4	33.9
715	Valley	21.7	19.9	20.3	20.8	21.2	21.3	21.5	21.7	21.8	22.0	22.1
721	Manomet	13.3	18.3	20.8	23.2	24.8	28.4	29.4	30.4	33.1	35.2	36.1
728	Marshfield	13.0	15.3	15.4	15.5	15.6	15.6	15.7	15.8	15.9	16.0	16.0
735	Kingston	23.1	29.8	30.1	30.6	31.1	31.2	32.1	32.6	32.8	33.3	33.8
737	West Pond	43.4	65.2	67.4	68.9	70.1	70.7	73.0	74.5	75.2	76.7	77.9
738	Duxbury	28.5	29.5	30.4	30.9	31.4	31.7	32.7	33.2	33.5	34.0	34.5
745	Rochester	7.1	5.3	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4	5.4
915	Otis	19.1	25.0	25.5	25.9	26.3	26.8	27.3	27.8	28.3	28.8	29.4
919	Sandwich	27.6	23.4	23.7	24.0	24.3	24.7	25.0	25.4	25.9	26.3	26.7
924	Falmouth	80.8	82.3	83.2	83.9	84.6	85.6	86.8	87.8	88.9	90.0	91.2
936	Hatchville	33.0	34.2	34.9	35.5	36.1	36.8	37.6	38.5	39.3	40.1	41.1
946	Mashpee	27.3	25.0	25.3	25.7	26.1	26.6	27.2	27.7	28.2	28.7	29.3
961	Hyannis	84.2	100.3	101.8	103.0	104.5	106.1	107.6	109.4	111.3	113.0	114.9
963	Harwich	98.8	83.8	84.4	85.3	86.3	87.4	88.7	90.1	91.5	92.9	94.3
975	Orleans	31.0	37.9	38.2	38.6	38.9	39.2	39.6	40.0	40.5	41.0	41.4
976	Wellfleet	30.6	32.8	33.0	33.2	33.5	33.7	33.9	34.4	34.9	35.2	35.6
NEW	Oak St.	N/A	24.4	24.8	25.1	25.5	25.9	26.4	26.9	27.4	27.9	28.4